

# Family Oplichthyidae

Body elongate, greatly depressed, and long tail tapers to slender caudal peduncle. Head moderate, broad, -greatly depressed. Snout broad, obtuse, depressed. Eyes close together, face laterally, premedian or largely premedian. Mouth broad, terminal and mandible usually little protruded. Jaws vomer and palatines with minute teeth. Two nostrils each side. Gill membranes joined to isthmus. Pseudobranchiae present. No air-bladder. Upper surface and sides of head bony, armed with spines and scutes. Skin naked, except row of bony bucklers or scutes, strongly armed with spines, along upper side of body.

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Two dorsals, soft fin with much larger base and rays sometimes filamentous. Anal like second dorsal, without spines. Caudal free, truncate. Pectoral large, lower 3 or 4 rays detached. Ventral in advance of pectoral base, fins moderately separated, each with spine and 5 rays.

Indo Pacific. A small family - greatly suggestive of the *Platycephalidae*, but living usually in deeper water. They differ chiefly in the body destitute of scales, though armed with a lateral series of spiny bucklers, and the ventral fins in advance of the pectorals. Like the *Triglidae* several of the lower pectoral rays are detached or free.



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Genus Oplichthys Cuvier

Oplichthys Cuvier, Hist. nat.

Poiss., vol. 4, p. 264, Nov. 1829. (Type

Oplichthys langsdorffii Cuvier,  
monotypic.)

Hoplichthys Cuvier, op. cit., vol. 4,  
table of contents p. XIX, Nov. 1829.  
(Type Oplichthys langsdorffii  
Cuvier.)

Scutes of lateral line each  
with 2 well developed spines,  
which subequal or the upper  
a little larger.

Genus Hopf

### Analysis of Species

a.<sup>1</sup> Spinous and soft dorsal fins high, length  $\frac{2}{3}$  of head; first dorsal high, high as second dorsal. regani.

a.<sup>2</sup> Spinous and soft dorsal fins low, length  $\frac{1}{5}$  to  $\frac{2}{5}$  of head; first dorsal low, half height of second. langedorfii.



2239  
Oplichthys regani Jordan

(Jordan and Richardson)

Hoplichthys regani Jordan,

Amer. Naturalist, <sup>vol. 42</sup> p. 800, Dec.

1908. (On Hoplichthys langidosui  
Jordan and Richardson).

Jordan, Tanaka, Snyder, Journ.

College Sci., Tokyo, vol. 33, art.

1, p. 288, fig. 437 (copied), 1913

(reference). — Jordan and

Thompson, Proc. U. S. Nat. Mus.,

vol. 46, p. 67, fig. 2 (copied),

Aug. 23, 1913 (Misaki).

Hoplichthys langsdoerfi (not  
Cuvier) Jordan and Richardson,  
Proc. U. S. Nat. Mus., vol. 33. p.  
645, fig. 5, Feb. 28, 1908 (type  
locality, Kagoshima, Japan).

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Oplichthys langsdorfi Cuvier

Oplichthys langsdorfi Cuvier,  
Hist. Nat. Poiss., vol. 4, p. 264,  
pl. 81, 1829 (type locality, Japan).

Oplichthys langsdorfi Swainson,  
Nat. Hist. Animals, vol. 2, p. 263,  
1839 (reference).

Oplichthys langsdorfi Jordan and  
Snyder, Annot. Zool. Japon., vol. 3,  
p. 105, 1901 (reference).



Hoplichthys langsdorfi Jordan  
 and Thompson, Mem. Carnegie  
 Mus., vol. 6, no. 4, p. 279, Sep.  
 1914 (Yawatahama; Misaki).  
 — Franz, Abhandl. Bayer. Akad.  
 Wiss., vol. 4, Suppl. Band 1, p.  
 78, 1910 (Yokohama; Misaki). —

Jordan and Hubbs, Mem. Carnegie  
 Mus., vol. 10, no. 2, p. 288, June 27,  
 1925 (Kagoshima Bay; Misaki).

Hoplichthys langsdorffii Schlegel,  
Fauna Japonica, Poiss., p. 282, 1843  
(Japan). — Elera, Cat. Fauna  
Filipinas, vol. 1, p. 498, 1897 (Luzon;  
Manila).

Hoplichthys langsdorffii Ishikawa  
and Matsuura, Cat. (Mus. Fish.)  
Tokyo, p. 48, 1897.

Hoplichthys langsdorffii Nyström,  
Bih. K. Svensk. Vet. Akad. Handl.,  
Stockholm, vol. 13, afd. 4, no. 4,  
p. 25, 1887 (Nagasaki). — Jordan  
and Thompson, Proc. U. S. Nat.  
Mus., vol. 46, p. 67, ~~figs. 4~~ figs. 4  
(head above) and 5, 1913 (Misaki).  
— Jordan, Tanaka, Snyder,  
Journ. College Sci., Tokyo, vol. 33,  
art. 1, p. 288, 1913 (reference).

Hoplichthys pusillus Bleeker,  
Verh. Kon. Akad. Wet. Amsterdam,  
vol. 18, (no. 6), p. 13, 1879  
(type locality, Kusin, Nagasaki)  
(name only).

Aspidophorus pusillus (Langsdorf)  
Bleeker, op. cit. (name in  
synonymy).



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Depth 13 to 14; head  $3\frac{1}{4}$  to  $3\frac{3}{5}$ , width  $1\frac{1}{4}$  to  $1\frac{2}{5}$ . Snout  $2\frac{3}{4}$  to  $2\frac{7}{8}$  in head; eye  $4\frac{1}{4}$  to  $4\frac{1}{2}$ ,  $1\frac{1}{2}$  to  $1\frac{3}{4}$  in snout, greatly exceeds narrow interorbital; maxillary reaches  $\frac{4}{5}$  to  $\frac{7}{8}$  to eye, length  $3\frac{1}{5}$  to  $3\frac{1}{4}$  in head; teeth minute, villiform, in narrow bands in jaws, small patch on each side of vomer followed by narrow and long palatine band; interorbital width  $3\frac{1}{4}$  to  $4\frac{1}{4}$  in eye, deeply concave. Gill rakers  $2 + 12$ , short, lanceolate, equal gill filaments or 4 in eye.

Bones of head all more or less rugose striate, ridges well denticulate; lateral ridge with spine directed forward in front, then 3 well separated principal spines; long, curved,

preopercular spine slightly  
larger or subequal with eye;  
opercular spine half long as  
preopercular; pair of small  
occipital spines; strong,  
projecting humeral spine.  
Lateral line with 27 or 28 +  
1 spines.

D. VI - 15, first dorsal  
spine 4  $\frac{3}{4}$  to 5 in head, second  
dorsal height  $1\frac{3}{4}$  to  $2\frac{2}{5}$ ;  
A. 17, I, fin height  $2\frac{1}{5}$  to  
3; caudal  $1\frac{4}{5}$  to  $2\frac{1}{4}$ , little  
convex behind; least depth  
of caudal peduncle  $2\frac{1}{4}$  to  
 $2\frac{2}{3}$  in eye; pectoral  $1\frac{1}{3}$  to  
 $1\frac{3}{5}$  in head, rays 10, III, lowest  
or free rays  $1\frac{3}{5}$  to  $1\frac{4}{5}$  in rest  
of fin; ventral rays I, 5,  
fin  $1\frac{7}{8}$  to 2 in head.

Brown, with obscure  
darker variable spots on back



and head above. Iris gray.  
Several dark spots on each  
dorsal spine and ray, and  
usually one at base most  
distinct. Caudal with 4 obscure  
dark transverse bars, and 6  
or 7 narrow ones across pectoral.  
Lower fin whitish, like  
under surface of body.

Japan. I cannot help  
~~thinking~~ ~~it~~ ~~Oplichthys gilberti~~  
~~Jordan and Richardson is~~  
~~the same as Oplichthys langsdorffii~~  
~~Cuvier, imperfect and~~  
~~inaccurate as the latter's~~  
~~figure is. Its longer snout,~~  
~~low spinous dorsal and short~~  
~~lower pectoral rays are all~~  
~~characters in agreement.~~



U. S. N. M., no. 6329. Hong Kong,  
China. Length 157 mm. Eye  $2\frac{1}{2}$   
in snout. A. 17, I.

U. S. N. M., no. 59589. Urado,  
Japan. Dr. H. M. Smith. Length  
138 mm. As Hoplichthys langsdorfi.

U. S. N. M., no. 75853. Japan?  
Dale and Jouy. Length 158 to  
175 mm. Four examples.

~~U. S. N. M., no. 51271. Suruga  
Bay, Japan. Albatross Collection  
no. 5070. Length 88 to 160 mm.  
Paratypes of Hoplichthys gilberti.  
"The type does not appear to be  
with these specimens". Orbit  $1\frac{1}{5}$  in snout.~~

U. S. N. M., no. 74794. Yawatahama,  
Japan. August 1912. Manabe  
Collection. Length 94 mm. Orbit  $1\frac{1}{2}$   
in snout.

2249

4549. D. 5309. N. lat.  $21^{\circ}53'$ ,  
E. long.  $115^{\circ}51'$ , China Sea,  
vicinity of Hong Kong. In 62  
fathoms. November 4, 1908.  
Length 160 mm.

as a series of paratypes, from  
various stations in Philippine  
Seas, length



Monhoplichthys gilberti (Jordan  
and Richardson)

Hoplichthys gilberti Jordan and  
Richardson, Proc. U. S. Nat. Mus.,  
vol. 33, p. 647, fig. 6, 1908 (type  
locality, Suruga Bay, in 108  
fathoms; off Ose Point, Suruga  
Bay, in 75 to 100 fathoms). —  
Franz, Abhandl. Bayer. Akad.  
Wiss., vol. 4, Suppl. Band 1, p. 78,  
1910 (Yokohama). — Jordan, Tanaka,  
Snyder, Journ. College Sci., Tokyo,  
vol. 33, art. 1, p. 289, fig. 238, 1913  
(reference). — Jordan and Thompson,  
Mem. Carnegie Mus., vol. 6, no. 4, p.  
379, fig. 52 (copied), Sep. 1914  
(Misaki). — Izuka and Matsuura,  
Cat. Zool. Spec. Tokyo Mus., Vert.,  
p. 122, 1920 (Boshiin).

2264

Hoplichthys langsdorffii (not Cuvier)  
Schlegel, Fauna Japonica, Poiss.,  
p. 156, pl. 79, fig. 2, 1843 (Japan).  
— Gilbert, Bull. U. S. Fish  
Comm., vol. 23, pt. 2, p. 641, 1903  
(Hondo Island, Japan, in 75 to  
100 fathoms; Kagoshima).

Hoplichthys langsdorffi Jordan  
and Starks, Bull. U. S. Fish  
Comm., vol. 22, p. 593, 1902 (Suwaga  
Bay, off Use Point).



2265

Depth 10 to 13; head  $2\frac{7}{8}$  to  $3\frac{1}{3}$ ,  
width  $1\frac{1}{4}$  to  $1\frac{3}{5}$ . Snout  $3\frac{1}{10}$  to  
 $3\frac{1}{4}$  in head; eye  $3\frac{3}{4}$  to  $3\frac{7}{8}$ ,  $1\frac{1}{8}$  to  
 $1\frac{1}{5}$  in snout, greatly exceeds  
narrow interorbital; maxillary  
reaches below front eye edge of  
about  $\frac{1}{8}$  in eye, length 3 to  $3\frac{1}{8}$   
in head; teeth minute, villiform,  
in narrow bands in jaws, band  
across vomer and <sup>ling.</sup> narrow band  
on each palatine; interorbital  
width 3 to 6 in eye, deeply  
concave. Gill rakers  $2 + 10\frac{1}{2}$ ,  
short, lanceolate, equal gill  
filaments or 5 in eye.

Bones of head all more or  
less rugose striate, ridges  
minutely denticulate; lateral  
ridge with spine directed  
forward in front and others  
following flaring outward,  
enlarged spine opposite front



2266

nostrils and curved back; front ridge of preopercular spine with 5 denticles graduated up to large antero-basal spine, little curved upward; preopercular spine 1 to  $1\frac{1}{4}$  in eye. Pair of small spines in internasal space of first pair of nostrils; pair of small moderately spaced parietal spines followed by similar pair of occipitals; strong beeled humeral spine, which may have an anterior denticle. Lateral line with 28 spines, larger and stronger posteriorly.

D. VI-15, I, depressed spinous fin not reaching soft dorsal, first spine  $2\frac{4}{5}$  to  $3\frac{1}{2}$  in head, first ray  $2\frac{1}{8}$  to  $2\frac{2}{3}$ ; A. 17, I, seventh ray  $2\frac{2}{3}$  to  $3\frac{1}{8}$ ; caudal 2 to  $2\frac{3}{5}$ , slightly convex

behind; least depth of caudal peduncle  $3\frac{1}{2}$  to  $3\frac{3}{4}$  in eye; pectoral  $1\frac{2}{3}$  to  $1\frac{3}{4}$  in head, rays 12, III, lowest or detached rays  $1\frac{1}{3}$  to  $1\frac{1}{2}$  in fin; ventral rays I, 5, fin  $2\frac{1}{8}$  to  $2\frac{1}{4}$  in head.

Brown above, with obscure dark specks and spots, and 4 principal well spaced dark blotches or saddles, with lighter bar narrowly in each pale interspace. Iris gray. Spinous dorsal with dark gray tints terminally. Soft dorsal with several dark spots on each ray. Caudal light brown, with darker spots basally and on outer portion. Pectoral with numerous small dark specks or spots. Ventral and anal whitish, like lower surface of body.

2268

Japan. In this species the spinous dorsal and detached pectoral rays quite short, the coloration variegated and the maxillary reaches the eye.

U. S. N. M., No. 51271. Albatross  
Collection. ~~No. 5070~~. Suruga Bay,  
Japan. May 11, 1900. Length 85  
to 161 mm. Paratypes.



Monko

2269

~~Oplichthys~~ Oplichthys ogilbyi (McCulloch)

Hoplichthys ogilbyi McCulloch,  
Biol. Res. Endeavour, vol. 2, pt. 3,  
~~July~~ p. 133, pl. 28, fig. 1, July  
13, 1914 (type locality, ~~off~~ Cape  
Moreton, Queensland, in 73 fathoms).

36½ miles N. 12° E. of

Oplichthys ogilbyi McCulloch,  
Austral. Mus. Mem., no. 5, pt. 3,  
p. 404, Nov. 28, 1929 (reference).

Sugggrundius macracanthus (Bleeker)

Platycephalus macracanthus

Bleeker, Verslag. Kon. Akad. Wet.  
Amsterdam, ser. 2, vol. 3, p. 253,  
pl., 1869 (type locality, Amboina);  
vol. 19, p. 22, 1879;

Atlas Ichth. Ind. Néerl., vol.  
9, pl. (2) 419, fig. 1, 1877. —

Day, Fishes of India, pt. 1, p.  
276, pl. 59, fig. 3, 1875 (Madras);  
Fauna of British India, Fishes,  
vol. 2, p. 238, 1889.

Thysanophrys macracanthus Jordan  
and Richardson, Proc. U. S. Nat. Mus.,  
vol. 33, p. 630, 1908 (name only).



Monhoplichthys acanthopleurus

(Regan)

Hoplichthys acanthopleurus

Regan, Trans. Linn. Soc. London,  
vol. 12, pt. 3, p. 239, pl. 28, fig. 5,  
1908 (type locality, Saya de  
Malha Bank, over 123 fathoms).

— Barnard, Ann. South African  
Mus., vol. 21, pt. 2, p. 937, pl. 34,  
fig 4 (copied), Oct. 1927 ( Natal;  
Zululand; 60 to 150 fathoms).



Oplich

Hoplichthys langsdorfi (not  
Cuvier) Gilchrist and Thompson,  
Ann. South African Mus.,  
vol. 13, pt. 3, p. 74, May 7, 1914  
(off Natal, 63 fathoms; Tugela  
River mouth N. 22 miles). Ann.  
Durban Mus., vol. 1, pt. 4, p. 412,  
May 1917 (reference).

? Hoplichthys citrus (not Gilbert?)  
Gilchrist, Fisher. Marine Biol.  
Surv. South Africa, Rep. no. 2,  
Special Rep. no. 3, p. 78, 1921 (1922)  
(off Natal, in 150 fathoms).

2272

Head 3 to  $3\frac{1}{2}$ ; width of head  $3\frac{3}{4}$  to 4. Snout  $3\frac{2}{5}$  in head from snout tip; eye  $3\frac{2}{3}$  to 4,  $1\frac{1}{8}$  in snout, greatly exceeds interorbital; maxillary reaches below front eye edge; ridges of head denticulate, lateral margins not strongly indented, spinose. Lower gill rakers 12. Patch of spines behind angle of jaws.

Lateral scutes 27, each with strong spine and 1 or 2 small ones below it.

D. VI-15, in male spinous dorsal scarcely higher than in female, spines not produced; soft dorsal with all rays produced into filaments, with third, seventh and eighth nearly long as head; A. 17; caudal truncate, length  $1\frac{9}{10}$  in total head; pectoral  $1\frac{1}{2}$ ,



rays 13, III; ventral long as pectoral.

Pale brownish. Dark spot  
on spinous dorsal. Length 180  
mm. (Barnard.)

Natal, Zululand, Seychelles.

2274

Monhoplichthys citrinus (Gilbert)

Hoplichthys citrinus Gilbert, Bull.  
U. S. Fish Comm., vol. 23, pt. 2, p.  
640, fig. 249, 1903 (1905) (type  
locality, Pailolo Channel, in 138  
fathoms; near Laysan, in 116 to  
220 fathoms; off Maui, in 143 to  
220 fathoms; off Oahu, in 154 to  
216 fathoms). — Weber, Siboga  
Exped., vol. 57, p. 510, 1913 (Timor  
Sea). — Fowler, Mem. Bishop  
Mus., vol. 10, p. 300, 1928 (copied);  
vol. 11, no. 6, p. 431, 1934 (Hawaii).

Depth  $8\frac{3}{5}$  to  $10\frac{4}{5}$ ; head  $2\frac{3}{4}$  to  $3\frac{1}{8}$ , width  $1\frac{1}{5}$  to  $1\frac{2}{5}$ . Snout 3 to  $3\frac{1}{5}$  in head; eye 4 to  $4\frac{3}{4}$ ,  $1\frac{1}{5}$  to  $1\frac{1}{2}$  in snout, greatly exceeds very narrow interorbital; maxillary reaches  $\frac{1}{8}$  to  $\frac{1}{6}$  in eye, length  $2\frac{2}{5}$  to  $2\frac{4}{5}$  in head; broad bands of minute villiform teeth in jaws, narrower band across vomer and on each palatine; interorbital width 3 to 5 in eye, deeply concave. Gill rakers  $2 + 10$  to 12, short, equal gill filaments or 6 in eye.

Bones of head finely rugose striate, ridges minutely denticulated; lateral ridge with 1 or 2 spines directed forward in front, then large spine opposite front nostrils, and another opposite front of eye; preopercular spine with



2276

outer front ridge bearing 7 or 8  
spines graduated to larger  
prebasal spine which slightly  
flares upward; preopercular  
spine  $1\frac{1}{6}$  to  $1\frac{1}{4}$  times eye;  
pair of small moderately wide  
set parietal spines and similar  
pair of larger occipitals;  
strong pointed humeral spine.

D. VI - 15, I, spinous fin  
depressed reaches  $\frac{2}{3}$  to  $\frac{3}{4}$  soft  
dorsal in <sup>females and</sup> young, with age  
male with first spine elongate  
and ending in filament which  
may reach base of fourth ray,  
second to fourth rays in males  
ending in filaments reaching  
base of last dorsal ray; A.  
17, I, fin height  $3\frac{1}{8}$  to 4 in  
head; caudal  $2\frac{1}{6}$  to  $2\frac{1}{4}$ , little  
convex behind; least depth of  
caudal peduncle  $2\frac{1}{3}$  to 3 in eye;

2277

pectoral  $1\frac{3}{4}$  to  $1\frac{7}{8}$  in head,  
rays 13, III, lowest or detached  
rays  $1\frac{1}{8}$  to  $1\frac{1}{5}$  in fin; ventral  
rays I, 5, fin  $2\frac{1}{4}$  to  $2\frac{1}{8}$  in head.  
= Pale or light brown, under  
surfaces whitish. Young with  
back mottled or marbled  
with brown and dark bar  
connects eyes. First dorsal  
with gray to blackish gray  
terminally. Soft dorsal with  
several dark spots on each  
ray. Caudal with dark  
basal bar and gray terminally.  
Pectoral brownish or mottled  
with darker, detached rays,  
ventrals and anal whitish.  
Specimens quite variable in  
color as some uniformly pale  
or yellowish white, while others  
dull brown and young more  
variegated.

Hawaiian Islands.

2278

U. S. N. M., No. 51670, Hawaiian  
Islands. Albatross Collection.

4114. Length 179 mm. Paratype.

U. S. N. M., No. 51704, Hawaiian  
Islands. Albatross Collection.

Length 71 to 213 mm. Seven  
examples. Paratypes.



~~Rhin~~  
~~African~~ hoplichthys new genus.

Distinguished from Oplichthys by the very large smooth and elongated Tareaks before and below the eyes, so the preorbital extent of this area at least 1 to  $1\frac{1}{4}$  times the eye diameter. Snout elongated and spatulate. Interorbital moderate. Type Hoplichthys haswelli Mc Culloch.

~~same species, A. haswelli~~  
~~Mc Culloch and A. ogilbyi~~  
~~Mc Culloch~~

Vomer with a large patch of enlarged simple, pointed, teeth, -giving off 2 long pointed extensions behind.

(piv snout + Hoplichthys.)

"  
 (ATTLOV ~~pear~~ + Hoplichthys; with reference to the pear-shaped ~~naso~~ naked areas in which the eyes are situated.)

Rhinoplichthys haswelli (Mc  
Culloch)

Hoplichthys haswelli McCulloch,  
Rec. Austral. Mus., vol. 6, pt. 7,  
p. 351, pl. 64, July 1907 (type  
locality, East of Sydney, in 800  
fathoms); Biol. Res. Endeavour,  
vol. 2, pt. 3, p. 132, July 3, 1914  
(off Bermagui, New South Wales;  
in 70 to 80 fathoms, south from  
Gabo Island, Victoria, in 96 to  
108 fathoms; 36 miles off Cape  
Everard, Victoria, in 70 to 100  
fathoms; east from East Sister  
Island, Bass Strait, 90 fathoms;  
Great Australian Bight, E.  
long.  $126^{\circ} 30'$ , in 100 fathoms; E.  
long.  $126^{\circ} 45'$ , 130 to 320 fathoms);  
Further New South Wales, ed. 3, p.  
93, pl. 40, fig. 350a, 1934.

~~Of~~



— Waite, Rec. South Austral. Mus.,  
vol. 2, no. 1, p. 175, fig. 290, April  
23, 1921 (reference).

Oplichthys ogilbyi

— McCulloch, Austral. Mus. Mem.,  
no. 5, pt. 3, p. 404, Nov. 28, 1929  
(reference).



Insidiator macracanthus McCulloch, Biol. Res. Endeavour,  
vol. ~~2~~, no. 3, p. 1914

— McCulloch and Whitley, Mem.  
Queensland Mus., vol. 8, pt. 2, p.  
164, July 7, 1925 (reference).

1408  
ocular bar, fading to gray yellow;  
undulating lines or stripes of blue  
on back and side posteriorly running  
more or less longitudinally and  
above pectoral more or less vertically,  
breaking into dots about soft dorsal  
and at caudal base. Breast with  
obscure purplish lines and reticulations.  
Fins bright yellow, except ventrals,  
which whitish.

2289

Depth  $12\frac{1}{6}$ ; head  $2\frac{3}{5}$ , width  $1\frac{1}{3}$ .  
Snout  $2\frac{7}{8}$  in head; eye  $6\frac{1}{8}$ ,  $2\frac{1}{4}$  in  
snout, little greater than inter-  
orbital; maxillary reaches  $\frac{7}{8}$  to  
eye, length  $2\frac{4}{5}$  in head; teeth  
finely villiform and in bands  
in jaws; vomerine patch of teeth  
wide as interorbital, with much  
larger teeth than in jaws and giving  
off 2 backward extensions; rather  
large band of teeth on palatine,  
which larger and like vomerine  
teeth anteriorly and band  
tapering posteriorly; tongue  
broad, flat and truncate in  
front; interorbital width 8 in  
head, depressed concavely,  
cranium behind eyes flattened.  
Gill rakers  $3 + 12$ , short, low,  
spinescent, clavate, subequal  
with gill filaments or  $4\frac{1}{2}$  in  
eye.



2290

Armature of head with very small denticles or serrae; supraorbital row moderate; wide set pair of parietal spines close behind upper edge of eye, and smaller closer set pair at occiput; strong spine below hind edge of eye; 3 postocular spines each side, first lowest; lateral ridge of head or suborbital stay with backward directed superior spine little before eye and another opposite hind pupil edge; preopercle with large antero basal spine directed upward and backward; length of preopercular spine  $\frac{1}{4}$  times eye; 2 opercular spines each with denticulate ridge, ends opposite; humeral spine small, little free, with long, strong keel. Lateral line



with 28 spines, posterior larger and longer.

D. V 14, I, depressed spinous fin reaches  $\frac{5}{6}$  to soft dorsal, first spine 4 in head, sixth ray  $3\frac{1}{3}$ ; A. 16, I, seventh ray  $4\frac{1}{3}$ ; caudal  $2\frac{3}{5}$ , upper rays little longer and slight emargination behind; least <sup>in eye</sup> depth of caudal peduncle  $2\frac{3}{4}$ ; pectoral  $1\frac{4}{8}$  in head, rays 14, IV, lower semidashed rays  $1\frac{2}{3}$  in pectoral length; ventral rays I, 5, fin  $3\frac{2}{5}$  in head.

Pale mauve above, bucklers and spines brownish, lower surfaces whitish. Iris gray. Spinous dorsal pale brownish, posteriorly with dark brown blotch medially and another terminally. Soft dorsal with

pale to transparent general color and 3 dark or blackish well contrasted spots on each membrane, posteriorly on fin uppermost marginal. Caudal pale brownish, narrowly brown basally and hind margin narrowly blackish. Pectoral narrow, with 7 or 8 transverse rows of darker spots. Ventral and anal whitish, with dark edges to membranes posteriorly. Victoria, New South Wales.

U. S. N. M., No. 74841. Victoria, Australia. Australian Museum. Length 290 mm.